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IN THE

Supreme Court of the United States

Nos. 2, 3 and 4 Original

OCTOBER TERM, A. D. 1940.

STATES OF WISCONSIN, MINNESOTA, OHIO and PENNSYLVANIA, Complainants, vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, Defendants.	No. 2 Original.
STATE OF MICHIGAN, Complainant, vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al., Defendants.	No. 3 Original.
STATE OF NEW YORK, Complainant, vs. STATE OF ILLINOIS and THE SANITARY DISTRICT OF CHICAGO, et al., Defendants.	No. 4 Original.

EXCEPTIONS OF THE STATE OF ILLINOIS TO THE REPORT OF THE SPECIAL MASTER, MONTE M. LEMANN.

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EXCEPTIONS OF THE STATE OF ILLINOIS TO THE REPORT OF THE SPECIAL MASTER, MONTE M. LEMANN.

The State of Illinois excepts to certain of the conclusions made by the Special Master; to certain of the finding of facts made and filed by the Special Master; to the failure or refusal of the Special Master to make and file

certain findings of facts requested by the State of Illinois; to the recommendations for a decree made and filed by the Special Master; and to failure of the Special Master to make and file recommendations for a decree requested by the State of Illinois in the following particulars:

Exceptions to the Special Master's conclusions as to health conditions and to his recommendations as a result of such erroneous conclusions.

I.

(a) Illinois excepts to the conclusion, appearing on page 50 of the Special Master's Report, which reads as follows, to-wit:

> "The complaints as to the condition of the Waterway are based entirely upon the very offensive odors given off by it in the summer time and the effect of such odors upon persons living close to the Canal, in causing loss of appetite, nausea (in a few cases vomiting) and inability to sleep or difficulty in sleeping."

because insofar as said conclusion sets forth that the complaints are based entirely upon offensive odors, said conclusion is erroneous, inasmuch as the evidence indicates that certain persons also suffered from infections resulting from contact with the water from the Waterway; that said conclusion is also erroneous in that it omits many of the ailments resulting from the offensive odors and condition of the Waterway, such as sinus infection, skin infections, impetigo, headaches, sore throat, diarrhoea, dysentery, asthma, and secondary anemia.

(b) Illinois excepts to the conclusion, appearing on pages 51, 52 and 53 of the Special Master's Report, which reads as follows, to-wit:

> The foregoing statement sufficiently discloses the facts as found by me. Whether these facts constitute a "menace to the health" of the inhabitants of the complaining communities within the meaning which the Court intended that phrase to have, requires a decision as to which I have no certain guide. Counsel have gone to the dictionaries for definitions of menace, but it seems to me beside the point to cite such definitions to the Court, which itself used the phrase and will itself determine what it meant. In this report I can only give the phrase the meaning and scope which it seems to me that it was intended to have in this case. I do not believe that the Court intended to use the expression "menace to health" in the sense in which it was employed by Professor Carlson and Professor Ivy. On such a view it would not have been necessary to refer the case to me because it was apparent on the face of the papers that the sewage treatment program of the Sanitary District had not been completed and that untreated and incompletely treated sewage continued to be discharged into the Waterway. Under this condition, if the test is to be that which was urged by Professors Carlson and Ivy, it is clear that a menace would necessarily be found to exist.

because the said conclusion has failed to define "menace to health"; the Special Master failed to accept the proper definition as presented by the testimony of competent authorities; and the evidence as detailed sufficiently sets forth facts which unquestionably indicate a

"menace to health", and the record is full of specific instances of conditions other than those cited by the Master showing such an actual menace.

(c) Illinois excepts to the conclusion, appearing on pages 53 and 54 of the Special Master's Report, which reads as follows, to-wit:

> Nor can the effect of odors upon invalids and persons of less than average health be accepted as any test of health menace; even in cases of private nuisances the test is the effect of the acts complained of upon persons of ordinary sensibilities and in normal health.

because insofar as said conclusion limits the effect of the odor upon persons of average health; the order of reference to the said Special Master did not limit the scope of "menace to health" solely to persons of average health, or above average, and if the majority of said persons in the vicinity of the Waterway were below average in health, the Master should have found the effect of the Waterway upon their health. The Special Master recited in part the testimony of some of the attendants at St. Joseph's Hospital, which is near the Waterway, and the effect on their health and obviously their health was affected.

(d) Illinois excepts to the conclusion, appearing on page 54 of the Special Master's Report, which reads as follows, to-wit:

> My conclusion is that the facts proven do not establish any menace to the health of the inhabitants of Joliet and Lockport or elsewhere along the Waterway requiring an increase in diversion in water from Lake

> Michigan. However, as the issue is one which only the Court itself can determine, I necessarily proceed to discuss the other points covered by the order of reference.

because said conclusion is inconsistent in that it concludes, in the judgment of the Special Master based upon his understanding of his definition of "menace to health", that there is no "menace to health" and leaves the question of determination of this concept to the court itself.

(e) Illinois excepts to the conclusion, appearing on page 110 of the Special Master's Report, which reads as follows, to-wit:

> "The actual condition of the Illinois Waterway by reason of the introduction of untreated sewage creates in the summer months a nuisance through offensive odors at Joliet and Lockport, but does not present a menace to health. * * *"

Because although the Special Master found that the conditions of the Waterway caused witnesses or members of their family to complain of nausea, lack of appetite and inability to sleep, sore throats and nose or sinus trouble, asthma, diarrhoea, summer complaint and that children at school were made restless and hard to keep at work, that they had to shut the windows in the school because the odors were offensive; that school children became sick with nausea and had to be taken out of their classes and sent home for a day or so; that the paint on the homes in the neighborhood was ruined by the gas from the canal, that people kept their windows closed to keep out the odors, drove out at night to avoid the odors; that at the hospital sisters and lay nurses and many of the patients of the hospital suffered nervousness, nausea,

vomiting, inability to sleep and headaches and some of the patients were anxious to go home because of the odors, and some were so anxious to leave the hospital that they left before their sutures had been removed; that some of the sisters' and nurses' throats became sore or dry and had sinus trouble; that windows in the operating room had to be kept shut to keep odors out; that windows in the maternity ward of the hospital had to be kept shut at times, on account of the odors; that patients had asked to be transferred to the side away from the canal on account of the odors; nevertheless the Special Master failed to find that such conditions causing the complaints aforesaid were a menace to health.

Exceptions to failure or refusal of Special Master to grant findings of fact as to the following health conditions as submitted by Illinois to the Special Master in its requested findings of fact.

II.

Illinois excepts to the failure or refusal of the Special Master to find or grant the following requested findings of fact in Illinois' Requested Findings of Fact, which read as follows, to-wit:

(a) Finding of Fact 22, page 17:

The reduction of diversion to 1,500 c.f.s. on January 1, 1939, resulted in the deposition of putrefying sludge in the Main Channel and Brandon Pool, and the discharge of foul, nauseous and sickening gases and odors to the atmosphere (Rec. 317, 321, 405, 472, 497, 623, 669, 681, 689, 771, 776, 827, 835, 1175).

(b) Finding of Fact 23, page 17:

Hydrogen sulfide, a nauseous, irritating and toxic gas, is generated in the water and sludge of Brandon Pool when the temperature rises to 62 deg. Fahr. (Rec. 1992). Other obnoxious fecal odors known as mercaptan, indol, skatol and cadaverin are produced (Muehlberger, Rec. 3004; Carlson Rec. 2888). Both hydrogen sulfide and the fecal odors are a menace to the health of the people who live or work along the Waterway (Rec. 2802, 2904, 3036, 3083).

(c) Finding of Fact 24, page 18:

The putrescent, obnoxious, noisome and unhealthful odor which emanates from the Main Channel and the Brandon Pool causes nausea, insomnia, loss of appetite, irritation of the mucous membranes of the sinuses, nose and throat, nervousness, disturbance and difficulty in sleeping, vomiting, headaches, increase in sinus trouble, and in general, undermines the health of persons living or working along the Illinois Waterway (Rec. 447, 529, 555, 600, 608, 611, 614, 635, 650, 657, 694, 703, 748, 757, 831, 846, 850, 853, 906, 935, 988, 996, 1007, 1027, 1170 1215, 1220, 1225, 1240, 1246, 1274, 1284, 1300).

(d) Finding of Fact 25, page 18:

The odors which emanate from the Main Channel and Brandon Pool, are injurious and harmful to school children in schools in the vicinity thereof (Rec. 357, 382, 383, 394, 403). The odors are responsible for absences from school and cause the children to become nervous and inattentive in the classrooms, and make it impossible for them to go out and play in the playgrounds (Rec. 342, 343, 380, 1035).

(e) Finding of Fact 26, page 18:

The condition of the Main Channel and Brandon Pool aggravates illness and retards the recovery of patients ill in hospitals located along the Main Channel and Brandon Pool. Patients at the hospitals, because of the offensive odors from the Pool, had to leave the hospitals before stitches were removed after an operation; nurses had to put cotton in the noses of the patients because of the offensive odors; mothers who were about to give birth to children were unable to keep food on their stomachs because of the odors (Rec. 555, 880, 1019, 1111, 1112, 1129, 1141, 1181, 1189, 1195, 1203, 1204, 1205, 1290, 1292, 1304, 1305, 1307, 1309, 1313, 1317, 1320, 1328, 1330, 1342, 1345).

(f) Finding of Fact 27, page 19:

The odors which make up the fecal stench which emanates from the Main Channel and Brandon Pool set up a series of chemical processes known as nervous impulses which affect the heart and circulation and produce salivation, headache, nausea and loss of appetite (Rec. 2888).

(g) Finding of Fact 28, page 19:

The ordors caused nausea and vomiting (Rec. 311, 393, 600, 689, 694, 742, 748, 774, 846, 906, 988, 990, 996, 1026, 1050, 1071, 1106, 1135, 1157, 1164, 1186, 1191, 1195, 1204, 1209, 1240, 1302, 1323, 1332).

(h) Finding of Fact 29, page 19:

The odors caused loss of sleep (Rec. 313, 386, 392, 424, 601, 609, 611, 614, 635, 641, 651, 667, 679, 685, 704, 708, 748, 805, 816, 819, 826, 832, 845, 850, 853, 997, 1025, 1030, 1035, 1059, 1063, 1066, 1080, 1102, 1116, 1130, 1143, 1164, 1172, 1183, 1185, 1199, 1216,

1221, 1236, 1240, 1246, 1264, 1267, 1273, 1286, 1299, 1305, 1310, 1313, 1316, 1322, 1336, 1343). Insomnia or sleeplessness is not a trifling thing, in the matter of health. It is one of the serious questions in connection with disturbances of the nervous system (Carlson, Rec. 2986).

(i) Finding of Fact 30, page 19:

The odors or gases caused irritation of mucous membranes, sore throat, sinus trouble (Rec. 598, 651, 803, 826, 837, 906, 1000, 1045, 1110, 1128, 1134, 1160, 1164, 1185, 1219).

(j) Finding of Fact 31, page 20:

In addition to the actual injury to health by the odors and gases emanating from Brandon Pool, there is a serious menace to health in the exposure of the surface of millions of square feet of polluted and infected water, on which dried and drying sludge and scum floats in summer, and from said sludge or scum insects carry bacteria of putrefaction and disease to the homes of residents along the Waterway (Rec. 2889, 3036, 3083).

(k) Finding of Fact 32, page 20:

Health may be insidiously undermined by the odors, gases and infections emanating from Brandon Pool, although the damage may not be demonstrable by vital statistics. The human system can be tremendously injured before a person is cognizant of the fact, or before the keenest of pathologists can actually prove that injury has been done (Carlson, Rec. 2883-2884).

Illinois excepts to the Special Master's conclusions of present and past conditions at Lockport and Joliet.

III.

(a) Because said Special Master based his conclusions on the memory of certain few witnesses and not on the actual analyses of the water;

(b) Because the Special Master failed to find that the analytical data on the analysis of water at Lockport as shown in Illinois Exh. 37-A, from 1925 through December, 1940, showed that conditions were worse in 1940 than in 1930 or any year from 1925 to 1939;

(c) Because the Special Master failed to find that the testimony of Callahan and Andrew were inconsistent as to conditions in 1930 and that Andrews stated it was difficult to compare conditions in 1925 with 1939;

(d) Because the Special Master considered the evidence of certain objectors purporting to represent certain communities below Joliet, whereas their testimony was not proper testimony and should have been excluded for the reason that the State of Illinois was representing all of its people in this cause, and the objectors did not represent any community. Furthermore he failed to state that some of these objectors have consistently and militantly for over twenty years opposed any diversion of water whatsoever. The Special Master also failed to find that the objectors' reasons for opposing the increase was because they thought that more flow of water would carry more sewage downstream and that with less flow they would have as they had, had, better conditions downstream, and he also failed to find that such objections were without merit by reason of the fact that the evidence conclusively shows that conditions were better downstream

due solely to the increased treatment of sewage by the Sanitary District of Chicago and not due to the reduction in diversion of water;

(e) Because said reports ignores the record of analyses which shows:

1. Conditions in 1939 were far worse than in any prior year back to 1925;
2. Conditions in 1940 were better than in 1939, but worse than in 1938 or any prior year back to 1925;
3. Analyses through January, 1941, continue to be worse than in any previous January, except 1939, back to 1925;

(f) Because the Special Master's interpretation of the record of analyses at Lockport as shown in Exh. 37-A, (Master's Report, note 2, bottom of p. 70) refers only to the dissolved oxygen, whereas the B.O.D. was much less in every summer prior to 1939, thus indicating better conditions in every summer prior to 1939 even though the D.O. approached zero;

(g) Because at the bottom of page 66 of the Special Master's Report the Master states that The Sanitary District concedes that the B.O.D. at Lockport will be far less in the summers of 1941 and 1942 than in the summer of 1940, whereas, Illinois' exhibits indicate just the opposite;

(h) Because the Special Master in finding that conditions in 1941 and 1942 will be better than in 1939, (bottom of p. 71), did not follow this finding with the conclusion that 1941 and 1942 will be worse than 1938 or any prior year back as far as 1925;

(i) Because the Special Master made comparison of 1940 conditions, and those expected in 1941 and 1942, with those of 1939 (p. 71), whereas, the comparison should be with 1938, before the diversion was cut. If this compari-

son had been used, the Special Master should have concluded that:

(1) 1940 was worse than 1938 (bottom of p. 71);

(2) January, 1941, was worse than January, 1938, (Table middle of p. 70);

(3) The summer of 1941 will be much worse than 1938 (Table p. 67);

(4) Additional diversion will be necessary to maintain conditions in the summer of 1941 the same as in the summer of 1938;

(j) Illinois excepts to the findings of fact of the Special Master appearing in the last three lines of page 56 of his Report, which reads as follows:

> "The weight of opinion, however, seems to be that the presence of *any* dissolved oxygen is sufficient; compare *New York* v. *New Jersey*, 256 U. S. 296, 311, decided in 1921."

Because the weight of the testimony is to the contrary. *New York* v. *New Jersey*, 256 U. S. 296, holds that 25 to 50 per cent saturation of oxygen is necessary to avoid a nuisance. The record shows the dissolved oxygen in the water of Lake Michigan during the summer months is 8 parts per million, so that, on the basis of the aforesaid decision, 2 to 4 parts per million of dissolved oxygen is necessary to avoid a nuisance, and not merely *any* dissolved oxygen;

(k) Illinois excepts to the statements of the Special Master (page 82) relative to the results of the flushing experiment, because he failed to find that said experiment did not improve conditions, and he failed to find that as a result of the flushing conditions of Brandon Pool will be much worse in the summer of 1941, and probably 1942, than they otherwise would have been.

Exceptions to failure or refusal of Special Master to grant findings of fact relative to actual condition of the Waterway submitted by Illinois to the Special Master in its requested findings of fact.

IV.

Illinois excepts to the failure or refusal of the Special Master to find or grant the following requested findings of fact in Illinois' Requested Findings of Fact, which read as follows, to-wit:

(a) Finding of Fact 13, page 13:

Analyses have been made continuously since March, 1925, of the water from the Main Channel at Lockport. Samples are collected each hour and analyzed for dissolved oxygen. At the present time, approximately 9,000 determinations of dissolved oxygen are made per month at some twelve stations on the Illinois River and in the Sanitary District (Rec. 237). Samples are collected daily, at intervals of four hours for determinations of B.O.D. The dissolved oxygen may be considered as an asset, the B.O.D. as a liability (Rec. 239). The changes in condition of the Illinois Waterway are shown by such chemical data (Illinois Exh. 37, 37A).

(b) Finding of Fact 14, page 13:

The analyses at Lockport (Illinois Exh. 37 and 37A) show that the condition of the water remained practically unchanged from 1925 through 1938 (Rec. 271). In 1939, however, marked deterioration occurred, with a great increase of B.O.D. (Rec. 272). The degree of pollution was much worse in 1939 than in any previous year. Conditions in 1940 were better.

The actual condition in January, 1941, however (Mohlman Exh. 18, a, b, c, d, e) was worse than in January of 1940 or 1938 and almost as bad as in January, 1939.

(c) Finding of Fact 16, page 15:

At the time of the decree of April 21, 1930, and of the enlargement of the decree in May 22, 1933, the Supreme Court did not have before it any matter relating to Brandon Pool, the creating of which through the construction of a Federal waterway has brought about a condition which was not in existence at the time of the original decree or the enlargement thereof.

(d) Finding of Fact 18, page 15:

The foul and nauseous conditions present since January, 1939, in the Main Channel and Brandon Pool are due primarily to deposits of putrefying sewage sludge containing large amounts of organic matter which lie on the bottom of the Main Channel and the Brandon Pool (Rec. 210, 278, 281, 1426, 1875, 1940, 1942, 1985, 2071, 2089, 2108, 2622). This sludge decomposes most actively and erupts violently in the early summer (Mohlman Exh. 8) and continues to putrefy throughout the summer. Hydrogen sulphide and other sickening gases are discharged to the atmosphere.

(e) Finding of Fact 19, page 16:

Sludge deposits of sewage origin, which are undergoing putrefaction in the Main Channel and Brandon Pool, become less potent in time as the organic matter contained therein is decomposed. The loss of putrescibility is approximately 50 per cent the first summer, 25 per cent the second summer, and less thereafter (Mohlman Cross-Exam. Exh. 8, 9).

(f) Finding of Fact 20, page 16:

Although all discharge of sludge to the Main Channel was discontinued at the end of September, 1940, the previously deposited sludge will not lose its potency until late in 1943 (Mohlman Cross-Exam. Exh. 8, 9; Pearse Rec. 216, 1675-1676). The flushing test (made between December 2 and 12, 1940) resulted in the deposition of 62,887 tons of sludge in Brandon Pool, and the discharge of 21,123 tons from the Pool. Since the test the sludge deposits in Brandon Pool are more putrescible than before the test was made (Mohlman Exh. 17, p. 22 of report).

(g) Finding of Fact 21, page 16:

The conditions in Brandon Pool will be worse in 1941 than in 1940 or 1938 (Illinois Exh. 60A, 61A; Mohlman Exhs. 18a, b, c, d, e). Conditions prior to 1938 were never wholly satisfactory. The modified Petition of Illinois does not contemplate making conditions in the Illinois Waterway better than they were in 1938 (Cheadle Rec. 424, 434-435; Mohlman Rec. 272, 281; Pearse Rec. 211-212; Jones Rec. 298; Andrew Rec. 3798-3801; Sontag Rec 397-398; Callahan Rec. 861-862; Carlson Rec. 2980; Muehlberger Rec. 3010-3011; Hollis Rec. 1329). Conditions in the summer of 1942 should be better than in the summer of 1941, but there will still be an absence of dissolved oxygen at Lockport and in Brandon Pool.

Exceptions to failure or refusal of the Special Master to recommend an increase in diversion, despite his finding that all remedial or ameliorating measures proposed by the lake states are not feasible and practicable, whereas increased diversion is the only feasible, practicable remedial measure available for relief at Brandon Pool in the summers of 1941 and 1942.

V.

(a) Illinois excepts to the Special Master's failure or refusal to recommend an increase of diversion, because he found that all other remedial measures were not feasible or practicable, thus leaving increased diversion as the only feasible ameliorating and remedial measure available. His failure to recommend an increase in diversion was not because increased diversion would be ineffective as a remedial measure.

(b) Illinois excepts to the Special Master's failure or refusal to find that the results of the flushing test will increase the need at Brandon Pool for diversion of additional water in the summer of 1941 and probably for 1942.

Exceptions to failure or refusal of Special Master to grant findings of fact relative to the need for increase of diversion in the summer months of 1941 and 1942 as requested by the State of Illinois in its modified petition, submitted to the Special Master.

VI.

Illinois excepts to the failure or refusal of the Special Master to find or grant the following requested findings

of fact in Illinois' Requested Findings of Fact, which read as follows, to-wit:

(a) Finding of Fact 39, page 26:

A controlled increase diversion offers the only practical remedial measure.

(a) An increase of diversion during the summer is the only practical remedial measure available for preventing recurrence of the foul and nauseous condition of Brandon Pool (Calvert 3202; Mohlman 278; Pearse 218; Andrew 1509; Carlson 2990).

(b) Additional diversion will reduce the B.O.D. by dilution and introduce an additional supply of dissolved oxygen (Buswell 2269; Warrick 2167; Howson 2825).

(c) Regulated diversion provides more dilution and dissolved oxygen in the summer, when needed (Howson Exh. 10, Item 5, Rec. 2828). With an annual average diversion of 1,500 c.f.s., as at present, budgeting will not provide sufficient water in summer, but is a step in the right direction (Mohlman Exh. 11, Item 5, Rec. 3288).

(b) Finding of Fact 40, page 26:

The maintenance of satisfactory conditions demands the presence of dissolved oxygen in the water (Calvert 3202; Howson 3239; Warrick 2240, 2244; Petitioners' Exh. 37; Mohlman Exh. 19; Pearse 194).

(a) The amount of dissolved oxygen necessary must be greater than zero (Howson 3255; Pearse 194; Mohlman Exh. 14e), because there can be no sub-zero.

(b) The amount of dissolved oxygen necessary

should be a minimum of 3 parts per million (Pearse 195).

(c) In *New York* v. *New Jersey*, 256 U. S. 296, 311, the Court considered that 25 to 50 per cent of the saturation value of dissolved oxygen is necessary to prevent the appearance of offensive odors. The evidence in the present hearing shows that Lake Michigan contains about 8 p.p.m. dissolved oxygen in the summer (Rec. 198, 239), so that applying the yardstick of the Court to the instant situation, from two to four parts per million would be required in summer.

(d) A minimum of one part per million should be maintained in Brandon Pool (Mohlman Exh. 14e). This is lower than indicated by the evidence, but is accepted by Illinois as a minimum standard for the purpose of temporarily improving the condition of Brandon Pool.

(c) Finding of Fact 41, page 27:

The minimum of one part per million of dissolved oxygen in the water of Brandon Pool above the Dam is the lower limit to establish the amount of increased diversion suggested for the warmer months by Illinois in its modified request.

(d) Finding of Fact 42, page 28:

The maximum increased diversion requested for 1941 is actually slightly less than the total increase, over 1,500 c.f.s., for the same seven months in 1938.

(e) Finding of Fact 44, page 29:

The modified request of Illinois "prays that the Decree be modified so that the actual amount of

diversion of water and the periods of time of such diversion be based on the results of a continuation of the actual analyses made by The Sanitary District of Chicago and verified by whomsoever this Court may designate, with a provision that the daily reports of the results, together with the record of the increased diversion of flow, be transmitted to the United States Engineer in Chicago and monthly reports filed with the Clerk of this Court and copies thereof transmitted to the respective Attorney General of the opposing Lake States".

(f) Finding of Fact 45, page 29:

The proposal of Illinois can be accomplished by a modification of the Decree of April 21, 1930, to provide for maximum limitations as specified in the modified request of Illinois, and minimum diversions to be determined by scientific analyses to be made on samples of water collected hourly above Brandon Dam, the collection and analyses to be made by the present personnel of the Illinois River Investigations of The Sanitary District of Chicago, which have acted continuously since 1925. The results of analyses and diversions of water from Lake Michigan can be reported for each 24-hour period to a competent expert, either an engineer or a chemist, appointed by the Supreme Court for the purpose of checking and verifying the accuracy of such reports. Copies thereof can be transmitted by such Court appointee to the Attorneys General of the Great Lakes States and to the U. S. District Engineer at Chicago, cooperation between The Sanitary District of Chicago and the U. S. District Engineer to be continued as heretofore, with reference to daily or hourly rates of diversion.

(g) Finding of Fact 46, page 30:

> No measurable harm will be done to the Great Lakes States by the increased diversion from Lake Michigan, suggested by the modified request of Illinois, which will result in a trifling temporary lowering of the lake levels of Lakes Michigan, Huron and Erie during the years 1941 and 1942. From the findings of the Special Master, Charles Evans Hughes, in 1927, the conclusion is reached that if the aforesaid temporary diversions are allowed, then the temporary lowering effect will be not more than one-half inch in 1941 and not more than one-third inch in 1942 on Lakes Michigan, Huron and Erie (Hughes Original Report 95-96, 104-105; Hughes Re-reference Report 139-140).

Illinois excepts to the following miscellaneous statements and finding of facts as reported by the Special Master:

VII.

(a) Illinois excepts to findings of fact appearing on page 4 of the Special Master's Report, which reads as follows:

> "After the hearings before me had been completed, Illinois in the brief which it submitted to me and the findings which it requested me to enter, modified its petition * * *."

Because the record shows that the modified request was made prior to the hearing held January 13, 1941, and became part of the record during the hearing of January 13, 1941.

(b) Illinois excepts to the statement appearing in lines 2 and 7 on page 11 of said Special Master's Report, which reads as follows:

> "Excluding this 10-day experimental period, the 1940 total flow at Lockport averaged 3,138 c.f.s., and the domestic pumpage 1,592 c.f.s, leaving a net amount diverted from the Lake, in addition to pumpage and excluding the 10-day experimental flow period, of 1,546 c.f.s."

Because the record shows the inflow from the Des Plaines River averaged 49 c.f.s. for 1940, which should have been excluded. By adding such inflow of 49 c.f.s. to the domestic pumpage of 1,592 c.f.s., makes a total of 1,641, which sum when subtracted from 3,138 leaves 1,497 c.f.s., being the correct net amount diverted from the Lake.

A note appearing at the bottom of Table 11, page 124, of the reports of the Special Master, should likewise be corrected so as to similarly show that the correct net amount diverted from the Lake, in addition to pumpage and excluding the 10-day experimental flow for 1940, was 1,497 c.f.s.

(c) Illinois excepts to the statement appearing in lines 1 to 16 on page 32 of said Special Master's Report because said statement fails to state that the evidence shows that the villages and towns mentioned are all taking active steps to install treatment plants for the treatment of their sewage.

(d) Illinois excepts to the statement of facts appearing on pages 72 to 75 and also paragraph "a" appearing on page 110 of said Special Master's Report, because the Master failed to find that the time required for the dredging of Brandon Road Pool would require from six to nine months.

(e) Illinois excepts to the statement of facts appearing on pages 82 to 91, inclusive, and paragraph "c" of pages 110 and 111 of said Special Master's Report relating to chlorination of the Waterway because said Master failed to find that the time required from 6 to 9 months.

(f) Illinois excepts to the statements of facts made by the Special Master appearing on pages 94 and 95 and on page 111 of said Special Master's Report relating to cascading, because said Special Master failed to find that the time required to commence cascading would require from 3 to 6 months.

(g) Illinois excepts to the statements of facts appearing on page 101 of said Special Master's Report, relating to the planned flow of diverted water permitted under the decree of 1930, to the effect that a different budgeting of the available water would have ameliorated conditions in 1939 and 1940 and that this amelioration will be available in 1941 and 1942. The record shows that the diversion was carefully budgeted in 1939 and 1940, but that the planned flow was not obtained at all times because of the variations in storm run-off which could not be predicted. The conclusion that better results can be assured in 1941 and 1942 is necessarily based on the assumption that storm flow can be accurately predicted; and this is problematic.

(h) Illinois excepts to the statement of facts appearing on page 109 of said Special Master's Report, appearing in line 7 of page 109, because the Sanitary District did not file any petition in this court and is not a party to this instant proceeding. The petition was filed by the State of Illinois.

(i) Illinois also excepts to the statement of the Master appearing on page 113, last paragraph, which reads as follows:

> "It is true that the District is not entitled to any grace for delays which have transpired during the hearings or since it filed its petition in January, 1940, for additional water from Lake Michigan. But it is one thing to say that Illinois must suffer the penalty for failure of the District to act with more speed, and another thing to make a finding that in the time now remaining the work can be done. The *per curiam* opinion of April 3, 1940, seems to indicate that the Court might yet permit additional diversion, if paramount considerations of health demanded it and no other adequate ameliorating measures were in fact available, notwithstanding that Illinois was in unexcused default. It would seem that the more time that elapses, the greater will be the difficulty in the position of Illinois. Every increased diversion from the Lakes removes a stimulus to Illinois to speed the work. More than two years have already elapsed since December 31, 1938. That date itself represented an allowance of 9 years from January 1, 1930, for carrying out the entire sewage treatment program, and more than 11 years have now elapsed."

Because, the record and evidence shows that the people in Joliet and Lockport did suffer serious consequences to their health in 1939 and 1940, and will continue to so suffer if relief is denied for the years 1941 and 1942. The Sanitary District cannot possibly finish its treatment program until the end of 1942, and the evidence and record shows that a contract for certain of the required equipment was let to the Allis Chalmers Company, who since the conclusion of this hearing has been on a strike for nearly three months and delivery of such equipment will be accordingly delayed. A delay in delivery of much of the additional equipment necessary, because of the

National Defense Program, may further interfere with the procuring of the necessary equipment for the future construction program.

VIII.

Illinois excepts to the Conclusion, appearing on page 114 of the Special Master's Report, which reads as follows, to-wit:

> "I recommend that a decree be entered dismissing the petition and the modified petition of the State of Illinois for a modification of the decree of April 21, 1930, and taxing costs against the State of Illinois."

Because said recommendation is inequitable contrary to the evidence in this case and erroneous as a matter of law.

IX.

Illinois excepts to the refusal or failure of the Special Master to grant or make recommendations for a decree as requested by the petitioner appearing on pages 31 and 32 of Illinois Requested Findings of Fact and recommendations for a decree, which reads as follows, to-wit:

> "On application of the State of Illinois for a temporary modification of Paragraph Three of the Decree of this Court entered April 21, 1930, these causes came on to be heard on the report of the Special Master, Monte M. Lemann, and were argued by counsel.
>
> In consideration whereof, it is ordered by this Court that Paragraph Three of the Decree of April 21, 1930 (281 U. S. 696), be and the same is hereby modified and changed as follows:
>
> On and after April 1, 1941, The Sanitary District of Chicago is hereby authorized and permitted to

divert such amount of water from Lake Michigan through the Chicago Drainage Canal and its auxiliary channels during the respective months of April, May, June, July, August, September and October for the years 1941 and 1942, to provide a minimum of one part per million of dissolved oxygen in the water above the dam at Brandon Pool at Joliet, Illinois.

Samples of the water above the dam at Brandon Pool shall be collected hourly and analyzed for their dissolved oxygen content. Such sampling and analyses shall be carried on by the personnel of the Illinois River Investigations of The Sanitary District of Chicago. The results of such analyses and the discharges at Lockport shall be reported for each 24-hour period to an Appointee of this Court. The diversions of water in accordance with the Decree as amended, shall be determined by The Sanitary District of Chicago in conjunction with the U. S. District Engineer at Chicago. Daily reports of such analyses and diversions shall be made by the Appointee of the Court to the U. S. District Engineer at Chicago, and monthly reports thereof shall be submitted to the Attorneys General of the Great Lakes States and to the Clerk of this Court.

The maximum additional amount of water diverted from Lake Michigan over and above the 1,500 c.f.s. now permitted by the Decree of April 21, 1930, shall be monthly averages in 1941, not exceeding a maximum increase of 1,000 c.f.s. in April, 3,000 c.f.s. in May, 5,000 c.f.s. in June, 6,000 c.f.s. in July, 5,000 c.f.s. in August, 3,000 c.f.s. in September, and 1,000 c.f.s. in October; and in 1942, not exceeding a maximum increase of 2,000 c.f.s. in May, 4,000 c.f.s. in June, 5,000 c.f.s. in July, 3,000 in August, and 1,000 c.f.s. in September.

It is further ordered that except as herein provided the Decree of April 21, 1930, in all other respects shall remain in full force and effect; and

It is ordered that the costs in these cases shall be taxable against the States of Michigan, Minnesota, New York, Ohio, Pennsylvania and Wisconsin."

All of which exceptions are herewith duly filed pursuant to the order of the Court.

Respectfully submitted,

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